

DIRECT TESTIMONY
OF
ANDREW R. WALKER
ON BEHALF OF
DOMINION ENERGY SOUTH CAROLINA, INC.
DOCKET NO. 2023-9-E

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND**
2 **POSITION WITH DOMINION ENERGY SOUTH CAROLINA, INC.**
3 **(“DESC” OR “COMPANY”).**

4 **A.**My name is Andrew R. Walker, and my business address is 400 Otarre
5 Parkway, Cayce, South Carolina 29033. I am employed by DESC as
6 Strategic Advisor, Power Generation.

7 **Q. DESCRIBE YOUR EDUCATIONAL BACKGROUND AND YOUR**
8 **BUSINESS EXPERIENCE.**

9 **A.**I graduated cum laude from Clemson University in December 2009
10 with a Bachelor of Science degree in Mechanical Engineering and earned a
11 Master of Public Administration from the University of South Carolina in
12 May of 2012. I began my career with DESC, then South Carolina Electric &
13 Gas Company (“SCE&G”), in February 2010 at the Company’s Wateree
14 Station (“Wateree”) as the facility’s Operations Engineer. In January 2016, I
15 was promoted to the position of Supervisor, Air Quality Controls where I

1 managed a team of engineers across the Company's Arthur M. Williams
2 ("Williams"), Wateree, and Cope coal-fired power generation stations with
3 responsibilities for oversight of the operation and maintenance of the air
4 pollution control equipment at those facilities. In August 2019, I transitioned
5 into a developmental role as a Consulting Engineer reporting to the Director
6 of Power Generation Operations with an array of responsibilities including
7 new generation project development, interfacing with the Company's
8 Resource Planning group, representing Power Generation in merger
9 integration activities with our sister utility's operations in Virginia, and
10 managing the Company's relationship with the Electric Power Research
11 Institute ("EPRI").

12 In my current capacity, I report directly to the Vice President of Power
13 Generation for DESC. My role with the Company is now specifically aligned
14 around identifying, leading, and coordinating strategic initiatives to support
15 the Company's commitment to Net Zero carbon by 2050, which includes
16 modernization of the Company's Power Generation fleet, incorporating
17 additional solar and renewable resources, replacing aged generation
18 facilities, and leading the development of new generation facilities in support
19 of these needs and the Company's Integrated Resource Plan ("IRP"). In this
20 role, I work closely on a daily basis with various departments including the
21 Power Generation Operations and Technical Services and Engineering

1 groups, resource planning, fuel and commodity supply, electric transmission
2 planning, wholesale power business development and procurement, as well
3 as the Dominion Energy Project Construction (“Project Construction”) large
4 project execution team.

5 **Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION**
6 **PREVIOUSLY?**

7 A. Yes. I have previously provided testimony before the Commission in
8 Docket Nos. 2021-93-E and 2023-2-E.

9 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

10 A. The purpose of my testimony is to discuss the Company’s current
11 generating resources and the operating report that is outlined in the 2023 IRP
12 as well as describe the evaluation and conclusions of the Company’s 2022
13 Coal Plants Retirement Study (“Retirement Study”) and the various
14 Transmission Impact Analysis (“TIA”) studies designed to evaluate the
15 electric transmission impacts of potential early retirement and replacement
16 options for the Wateree and Williams generating plants.

17 **Q. PLEASE SUMMARIZE THE COMPANY’S GENERATION**
18 **OPERATING REPORT.**

19 A. The testimony of Ms. Best and the 2023 IRP accurately reflect DESC
20 generation operations in 2022. DESC operates an efficient, diverse mix of
21 resources that includes traditional generation resources including combined-

1 cycle units (“CCs”), simple-cycle combustion turbines (“CTs”), a nuclear
2 facility which it operates in partnership with the South Carolina Public
3 Service Authority (“Santee Cooper”), three run-of-river hydro facilities, the
4 Saluda Hydro facility which impounds Lake Murray, the Fairfield Pumped
5 Storage facility, three gas-fired steam units that are converted coal units, and
6 three coal-fired generating stations, one of which can operate on natural gas
7 or coal. These resources are supplemented by over 973 MW of utility-scale
8 solar generation currently operating on the Company’s system under Power
9 Purchase Agreements (“PPAs”), which will soon include the first “hybrid”
10 solar and battery energy storage facility on DESC’s system which is
11 anticipated to reach commercial operation in the coming months. DESC has
12 signed PPAs to bring the total solar generation on its system to 1,174 MW.
13 Table 1 below from the 2023 IRP, sponsored by Ms. Best in this Docket,
14 provides some detail around the resources currently installed on the DESC
15 system.
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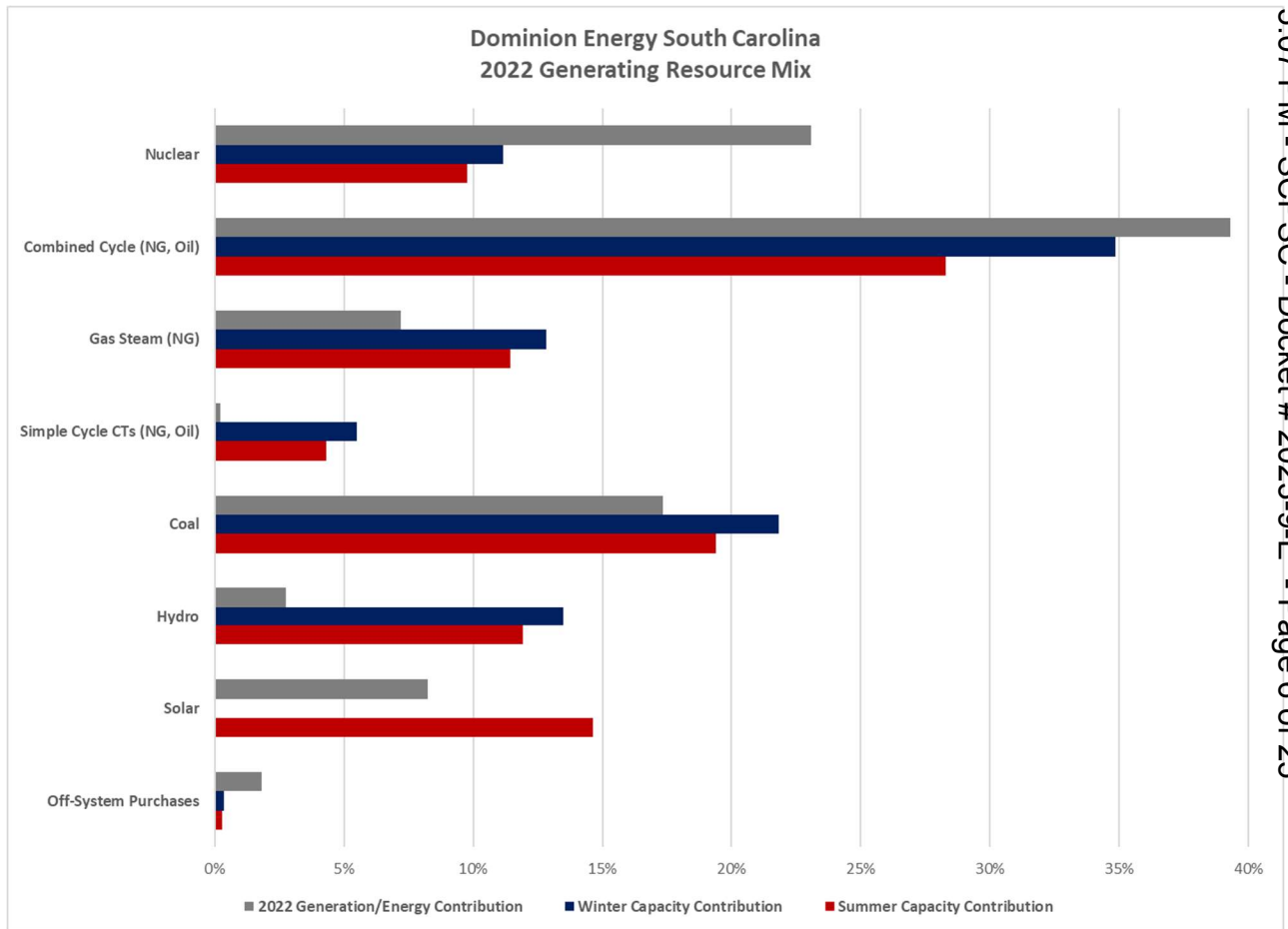
Table 1. DESC's Existing Generation Resources

	In-Service Date	Probable/Planned Retirement ^{1,5} Date	Summer 2023 (MW)	Winter 2023 (MW)
Steam				
Wateree – Eastover, SC	1970	2045	684	684
Williams – Goose Creek, SC ²	1973	2048	605	610
Cope – Cope, SC ⁴	1996	2071	415	415
Total Coal-Fired Steam Capacity			1704	1709
Gas-Fired Steam:				
McMeekin – Irmo, SC	1958	2038	250	250
Urquhart – Beech Island, SC	1954	2027 ⁵	95	96
Total Gas-Fired Steam Capacity			345	346
Nuclear				
V. C. Summer – Parr, SC	1982	2062	650	662
CT/CC⁴				
Urquhart 1, 2, 3 – Beech Island, SC	1969	2027 ⁵	39	48
Urquhart 4 – Beech Island, SC	1999	2027 ⁵	48	49
Coit – Columbia, SC	1969	2024 ⁵	26	36
Parr CTs 1, 2, 3, 4 – Parr, SC	1970	2023 ⁵	47	56
Hagood 4 – Charleston, SC	1991	2041	88	95
Hagood 5 – Charleston, SC	2010	2060	18	21
Hagood 6 – Charleston, SC	2010	2060	20	21
Urquhart Combined Cycle – Beech Island, SC	2002	2029 (Steam) /2052 (CTs)	458	484
Jasper Combined Cycle – Jasper, SC	2004	2044	903	961
CEC Combined Cycle – Gaston, SC	2004	2054	519	621
Total Natural Gas CT/CC Capacity			2166	2392
Hydro				
Neal Shoals – Carlisle, SC	1905	2055	3	4
Parr Shoals – Parr, SC	1914	2064	7	12
Stevens Creek – Near Martinez, GA	1929	2079	8	10
Saluda – Irmo, SC	1932	2082	198	198
Fairfield Pumped Storage – Jenkinsville, SC	1978	2128	576	576
Total Hydro Capacity			792	800
Other				
Southeastern Power Administration (SEPA)			20	20
Total Firm Capacity:			5677	5929
Solar³				
PPA DER Program	2015-2019	2039	64	0
PPA Non-DER Program	2017-2020	2040	909	0
<p>1. Probable retirement dates are based on the 2018 Depreciation Study. See Note 5 below regarding certain planned retirements.</p> <p>2. Williams Station is owned by South Carolina Generation Company ("GENCO"), a wholly-owned subsidiary of SCANA Corporation which is a wholly-owned subsidiary of Dominion Energy, Inc. GENCO's sells to DESC the total capacity and the entire output of Williams Station under a Unit Power Sales Agreement approved by the Federal Energy Regulatory Commission.</p> <p>3. Solar MW are nameplate values and do not represent the contribution to peak demand.</p> <p>4. Cope Station operates with coal as its primary fuel source but is also capable of operation on natural gas. All simple cycle CTs and combined cycle CTs can operate on either natural gas or ultra low sulfur fuel oil.</p> <p>5. Urquhart Steam Unit 3 and CT Units #1-4 are anticipated to retire no later than December 31, 2027 as specified under the Urquhart Replacements All Sources-Request for Proposals for their replacements. Parr CT 1 in mothball status; existing Parr CT Units 1, 2, 3, and 4 are planned to retire effective March 31, 2023 as part of replacement plan. Coit CT Units are planned to retire in second-half of 2024.</p>				

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Figure 1 below shows the contribution that each category of generating resource provides to meet the summer and winter capacity needs of our customers and the percentage that each category of resources was utilized to provide energy for our customers over the course of 2022.

Figure 1. Contribution by Resource Type to Installed Summer and Winter Capacity and Energy Delivered



As seen in the chart above, natural gas-fired generating resources (combined-cycle, simple-cycle, and gas fired steam units) collectively provide both the largest percentage of summer and winter capacity, and energy to supply our customers. Please note that for the year 2022, Cope

1 Station, which is capable of firing coal and/or natural gas, was primarily
2 using natural gas as its fuel source and as such is considered a gas fired steam
3 unit in the chart above. The Company's coal-only units at Wateree and
4 Williams supply the next largest amount of summer and winter capacity, but
5 a smaller percentage of the total energy to supply our customers. DESC's
6 share of its nuclear unit supplies an outsized percentage of total system
7 energy relative to its summer and winter capacity contribution, a reflection
8 of traditional "baseload" operations for nuclear facilities and their low fuel
9 costs. The hydro units operated by the Company supply a large amount of
10 summer and winter capacity but supply a relatively small proportion of the
11 Company's total energy; a large portion of the Company's installed hydro
12 resources comes from the Fairfield Pumped Storage facility which is used for
13 storing energy. Solar resources supplied over 8% of system energy in 2022
14 and approximately 145 MW of summer capacity, but do not provide winter
15 capacity given the timing of the winter peak.

16 In 2022, DESC operated its power generation fleet with zero
17 Occupational Safety and Health Administration ("OSHA") recordable injury
18 incidents, and it has been in the top quartile for safety performance among
19 electric utility operators within the Southeastern Electric Exchange ("SEE")
20 six times over the last decade and three times in the last four years. The
21 Company's generating fleet performance extends beyond our safety record.

1 As Ms. Best testifies, DESC returned Wateree Unit 2 to operational service
2 ahead of the 2022 peak summer months, and otherwise, despite the relative
3 age of the Company's fleet of generating resources, generation performance
4 metrics for DESC, which include forced outage factors ("FOF"), availability
5 factors ("AF"), and thermal efficiency (heat rate) remain generally better or
6 comparable to other utility operators in the United States and regionally. The
7 complete report on the Company's generation operations can be found on
8 Pages 34 through 44 of DESC's 2023 IRP and is incorporated into my
9 testimony by reference.

10 **Q. PLEASE DISCUSS THE COMPANY'S PLANS TO REPLACE OR**
11 **RETIRE CERTAIN PEAKING GENERATION RESOURCES.**

12 A. As discussed in prior IRPs and in the Short Term Action Plan
13 ("STAP") of the 2023 IRP, the Company has undertaken a programmatic
14 approach of replacing some fourteen older, end-of-life CT units and a natural
15 gas fired conventional steam unit located at the Bushy Park, Parr, Urquhart,
16 Hardeeville, and Coit facilities.

17 In Docket No. 2021-93-E, DESC sought a determination by the
18 Commission that it could proceed with the replacement of these units as like
19 facility replacements under the Utility Facility Siting and Environmental
20 Protection Act S.C. Code Ann. § 58-33-10 and without other proceedings. In
21 late 2021, DESC entered into a Partial Settlement Agreement in that docket

1 which allowed procurement of the three replacement CTs at Bushy Park and
2 Parr to proceed as originally requested and provided for DESC to conduct an
3 all sources RFP (“Urquhart RFP”) to procure the generation resources
4 needed to replace the certain units to be retired at Urquhart Station. The
5 Commission approved the Partial Settlement Agreement in Order No. 2022-
6 27.

7 **Q. WHAT IS THE STATUS OF THE URQUHART RFP?**

8 A. The Company has recently filed Supplemental Testimony and Direct
9 Testimony in Docket No. 2021-93-E outlining the results of the Urquhart
10 RFP, including testimony from the Independent Evaluator and Monitor
11 (“IEM”) and stakeholder process facilitator, Charles River Associates
12 (“CRA”).

13 As described in that testimony, the resources selected through the RFP
14 process, include a self-built 199 MW net winter rating, large frame-type CT
15 unit to be located at the Urquhart site and a hybrid 77.55 MW solar and 40
16 MW battery storage facility (rated at 160 MWh of energy storage). The RFP
17 also selected a 75 MW standalone solar facility that was chosen for its energy
18 value, but this project withdrew its proposal after selection. Proceeding with
19 these projects is conditional on timely affirmative action by the Commission
20 of DESC’s requests in that proceeding.

1 **Q. WHAT IS THE STATUS OF THE UNITS AT BUSHY PARK AND**
2 **PARR?**

3 A. DESC has fully executed the Engineering, Procurement, and
4 Construction (“EPC”) contract and Turbine Supply Agreement (“TSA”) for
5 the Bushy Park and Parr replacement units. These contracts have been in full
6 notice to proceed status since early 2022. Detailed engineering and major
7 equipment manufacturing is underway and the Company’s EPC contractor is
8 preparing to mobilize to the Bushy Park site to begin construction activities.

9 As the Company has notified the Commission through that docket,
10 DESC retired the Hardeeville and the Bushy Park CT units effective March
11 31, 2022, and September 30, 2022, respectively. The dismantling of the
12 Bushy Park units is complete. DESC retired the Parr units on March 31, 2023,
13 with dismantling and construction activities at that site to begin later this
14 year. The Company anticipates the replacement Bushy Park unit will enter
15 commercial service in 2024 and the Parr units will enter service in 2025.

16 **Q. WHAT IS THE STATUS OF THE UNITS AT HARDEEVILLE AND**
17 **COIT THAT DESC DOES NOT PLAN TO REPLACE?**

18 A. Dismantling of the Hardeeville CT unit is complete and at the time of
19 this filing the Company’s demolition contractor is completing site
20 stabilization and restoration activities. DESC plans to retire the Coit CT units
21 in 2024, following the commercial availability of the replacement Bushy

1 Park CT unit, at which point dismantling activities are planned to commence
2 for those units.

3 **Q. PLEASE DESCRIBE THE COMPANY'S EVALUATION OF THE**
4 **RETIREMENT OF WATEREE AND WILLIAMS.**

5 A. In January 2022, at the request of the Company's Resource Planning
6 group, DESC's Electric Transmission Planning group completed a
7 Transmission Impact Analysis ("2021 TIA") that identified the scope and
8 estimated the costs and schedules for transmission system upgrades required
9 to maintain grid reliability assuming the Company were to retire Wateree and
10 Williams by the end of 2028. The 2021 TIA found that from an electric
11 transmission standpoint the least expensive and lowest risk of the five options
12 considered in the study involve siting natural gas fired generation resources
13 at the Company's former Canadys Station site, which is located
14 approximately forty miles north of Charleston, South Carolina along the
15 Edisto River in Colleton and Dorchester Counties. The 2021 TIA also
16 indicated that the transmission projects required to create a path to
17 permanently import replacement power from neighboring utilities would be
18 extremely costly, time-consuming, and present reliability risks to the
19 Company's system and customers. The 2021 TIA did not support relying on
20 such supply of off-system power as a permanent replacement option for the
21 two plants.

1 In 2022, DESC Resource Planning prepared the Retirement Study to
2 outline its analysis around the potential early retirement of Wateree and
3 Williams and to analyze relevant statutory and regulatory deadlines,
4 especially those related to compliance with the U.S. Environmental
5 Protection Agency's ("EPA") Steam Electric Effluent Limitation Guidelines
6 ("ELG") for those units. The Retirement Study was largely informed by the
7 information provided by the 2021 TIA.

8 The Retirement Study, submitted in Docket No. 2021-192-E in
9 compliance with Commission Order Nos. 2021-418 and 2022-305, supported
10 the conclusions that: (1) as a planning goal, Wateree *could* be retired by the
11 end of 2028 and avoid certain elements of compliance costs associated with
12 the current ELG rule requirements if replacement generation capacity can be
13 built and operational or is available by that date; (2) committing not to
14 upgrade Wateree to meet the current ELG requirements would force Wateree
15 to be retired by 2028, even if replacement resources are not yet on line,
16 creating a risk to system reliability that would need to be further evaluated
17 based on information available at the time that a decision must be finalized
18 with respect to proceeding with ELG compliance activities at Wateree; (3) it
19 is not feasible to retire Williams any sooner than 2030 based on the
20 complexity of siting and constructing suitable replacement resources for
21 Williams (including electric transmission infrastructure); and (4) the

1 retirement of Williams at the end of 2030 is a “best case” planning goal and
2 will require DESC to proceed with ELG compliance upgrades for that plant
3 regardless of the selection and timing of the suitable replacement resources.

4 Following the Retirement Study, DESC Resource Planning submitted
5 a request for a subsequent TIA (“2022 TIA”) to study nine additional cases
6 for replacement of Wateree by the end of 2028 and Williams by the end of
7 2030. These cases were in response to the findings of the Retirement Study
8 and stakeholder concerns as to replacement resources. Three of the cases
9 evaluate options for retiring and replacing Wateree under the assumption that
10 Williams operates until the end of 2030. Of these cases, one evaluates
11 replacing Wateree with a 375 MW/1,500 MWh battery energy storage
12 resource (four-hour duration) and associated 150 MW solar resource located
13 at the Wateree site. The second case evaluates replacing Wateree with a 351
14 MW set of aeroderivative simple-cycle CTs at the existing Urquhart site in
15 Aiken County. The third case evaluates purchasing off-system capacity and
16 energy for at least two years until DESC could construct on-system
17 generation resources. The first two cases form the basis for the Wateree
18 Battery Build Plan and the Wateree CT Build Plan that were modeled in this
19 2023 IRP as discussed in the testimony of Mr. Neely.

20 The remaining six cases in the 2022 TIA evaluate options for
21 replacing Williams with various resource options located at the Canadys site,

1 the Williams site, or a combination of both. The resource options to be
2 evaluated under this aspect of the TIA request include different combinations
3 of Large Frame CTs, Aero CTs, and battery energy storage resources.

4 On January 12, 2023, DESC Resource Planning issued a third TIA
5 request to DESC Electric Transmission Planning (the “2023 TIA”) to assess
6 the electric transmission costs and construction schedules for the
7 construction of a large shared generating resource with Santee Cooper (the
8 “Shared Resource”). This Shared Resource is being pursued under a
9 Memorandum of Understanding (“MOU”) signed by DESC and Santee
10 Cooper on November 28, 2022. DESC’s focus for a Shared Resource is on
11 the Canadys site as the Company believes that it is suitable for new thermal
12 generation due to its proximity to the greater Charleston load center,
13 extensive existing electric transmission infrastructure, and existing rights of
14 way allowing expansion to connect to interstate natural gas pipelines.

15 As Ms. Best testifies, building a Shared Resource to replace Williams
16 could create economies of scale for all participating utilities, reducing costs
17 to their customers including the customers of DESC and Santee Cooper. A
18 Shared Resource could enhance efficiencies in natural gas pipeline
19 expansions and reduce the environmental footprint of the generation facilities
20 and natural gas pipeline projects needed to replace coal generation on both
21 the DESC and Santee Cooper systems. A Shared Resource also has the

1 opportunity to serve as an anchor customer for a major pipeline expansion
2 into the state. Once anchored, such an expansion may also help serve the
3 growing needs of various local distribution companies (“LDCs”) along with
4 existing and new large industrial customers needing firm natural gas supplies
5 for their facilities.

6 In this IRP, DESC included this Shared Resource as a resource option
7 which PLEXOS could select in optimizing the Williams replacement. As Mr.
8 Neely testifies, PLEXOS selected the Share Resource as a replacement
9 resource in ten of the twelve build plans that evaluated replacing Williams in
10 2030.

11 **Q. HOW DOES THE IRP INFORM DESC’S NEXT STEPS IN**
12 **REPLACING CAPACITY FOR WATEREE AND WILLIAMS?**

13 A. The modeling and analysis of the replacement and retirement build
14 plans are discussed in more detail in the testimony of Mr. Neely. As Mr.
15 Neely testifies, DESC created two supplemental build plans that model two
16 plausible approaches to retiring Wateree and was able to include some site-
17 specific costs in this modeling. The Wateree Battery Build Plan modeled
18 battery energy storage capacity sited and interconnected at the Wateree site,
19 while the Wateree CT Build Plan centered around a large frame-type simple
20 cycle CT unit located at the Urquhart site with fairly significant electric
21 transmission upgrades to support its interconnection and also constructing

1 battery resources at the Wateree site. Specifically, the Wateree Battery Build
2 Plan assumes DESC adds 400 MW of four-hour duration, standalone battery
3 energy storage in 2029 at the existing Wateree site and the Wateree CT Build
4 Plan assumes that DESC adds a 262 MW Large Frame CT at the Urquhart
5 site coupled with 100 MW of standalone battery energy storage installed at
6 Wateree in 2029. The modeling showed that these two build plans are close
7 enough in terms of cost and reducing carbon emissions that both represent
8 plausible pathways to support the retirement of Wateree ahead of its ELG
9 compliance deadline without unduly sacrificing system reliability. DESC
10 will continue to evaluate replacement options, which will ultimately be
11 dependent on the outcome of this proceeding.

12 As discussed earlier in my testimony, the Company is working to
13 conclude the first-of-its-kind all sources RFP process for the replacement of
14 certain units at Urquhart. A timely, constructive outcome from the Urquhart
15 RFP will allow the Company to begin preparing a subsequent RFP to identify
16 definitive replacement resources for Wateree. The two build plans modeled
17 in this IRP are not either/or decisions—an all sources procurement informed
18 by the results of the modeling of these build plans is the next logical step in
19 advancing towards a potential Wateree retirement. The Company believes
20 that an all sources RFP similar to the solicitation utilized for the replacements
21 at Urquhart is suited to constructing an optimized portfolio of projects that

1 could support a Wateree retirement. It should be noted that DESC filed the
2 original like-facilities request related to the Urquhart replacements with the
3 Commission in Docket No. 2021-93-E on March 10, 2021 and the
4 stakeholder process to design the Urquhart RFP which was required under
5 the Partial Settlement Agreement required many months to complete. Even
6 a much shorter delay could jeopardize the Company's ability to meet the
7 deadlines for retiring Wateree without completing certain ELG upgrades.
8 The Company believes conducting an all sources RFP based on the
9 documents developed for the Urquhart RFP will expedite the process and
10 simplify any necessary stakeholder engagement. Stakeholder consensus on
11 the RFP documents and design should not be a condition of issuing such an
12 RFP.

13 For the Williams replacement options, DESC included the Shared
14 Resource as a resource option in the modeling, and in optimizing build plans,
15 PLEXOS selected the Shared Resource as the optimal replacement resource
16 for Williams in ten build plans. The two carbon-constrained build plans did
17 not select the Shared Resource but instead replaced Williams with a 1,325
18 MW CC 2x1 unit; this unit is comparable to the Shared Resource but with
19 DESC fully owning the unit and its output (vs. the 50% ownership share
20 contemplated in the Shared Resource candidate). The thirteenth and
21 fourteenth build plans were the Williams 2047 Retirement Build Plan and the

1 High Fuel Williams 2047 Build Plan. These did not retire Williams until
2 2047 and so they did not select replacement resources in 2030.

3 DESC intends to further evaluate its options for replacing Williams
4 by continuing its discussions, evaluations, analysis, and negotiations with
5 Santee Cooper concerning the Shared Resource, completing the 2023 TIA to
6 further quantify electric transmission interconnection impacts and costs, and
7 evaluating natural gas transportation supply costs and schedules. DESC will
8 need this additional information before making a final decision on the
9 preferred approach for the replacement of Williams capacity. In the
10 meantime, DESC has begun to proceed with complying with the current ELG
11 rule requirements for Williams Station. Under the currently effective ELG
12 rule, this will allow the plant to operate prospectively past December 31,
13 2025 (which is the compliance deadline for Williams under the selected
14 compliance technology pathway for that facility). This decision, informed by
15 the Retirement Study, to pursue ELG compliance is necessary to allow
16 Williams to continue to operate until such time that a suitable replacement
17 resource or set of resources is available.

18 **Q. IS THE COMPANY AWARE OF POTENTIAL CHANGES TO THE**
19 **ELG RULE AND THEIR IMPACTS TO THE IRP?**

20 A. Yes. Following the submission of the 2023 IRP, on March 8, 2023,
21 EPA provided a pre-publication version of proposed rulemaking to modify

1 the currently effective ELG rule. This follows an announcement made by
2 EPA in July 2021 that it intended to revisit the steam electric ELGs for
3 subsequent rulemaking activities while keeping the ELG rule that was
4 finalized and published in October 2020 in place. The March 2023 proposed
5 rule is merely a proposal at this point and can only be relied upon by utilities
6 as an indication of potential future policy action by EPA—it does not have
7 the force and effect of law. However, based on its initial reviews of the
8 proposed rule, the Company does not believe that EPA’s proposal has an
9 impact on the planning assumptions for Wateree and Williams as laid out in
10 the 2023 IRP. The Company will continue actively monitoring this
11 rulemaking and update its planning assumptions, as necessary, after a final
12 rule has been published such that DESC can analyze the definitive impacts
13 on its facilities and operations.

14 **Q. ARE REDUCTIONS IN CARBON EMISSIONS THE ONLY DRIVER**
15 **FOR RETIREMENTS OF THE COMPANY’S REMAINING COAL**
16 **GENERATION?**

17 A. No. While the Company’s coal fired generating plants are critical to
18 maintaining system reliability, particularly during peak winter periods, coal
19 as a fuel source has faced headwinds in the United States for some time now.
20 The Company’s Wateree and Williams Stations are now both over 50 years
21 old and while the Company continues to maintain these facilities to ensure

1 that they safely, reliably, and affordably serve its customers in compliance
2 with all applicable environmental requirements, these facilities face
3 increasing environmental compliance costs and upgrades that makes
4 evaluation of their continued operation part of a prudent integrated resource
5 planning process, as was done in the Retirement Study as ordered by the
6 Commission. The continued revisiting of the ELGs by different
7 administrations has been particularly challenging for utility planners as
8 compliance requirements, costs, and technologies continue to evolve. The
9 Company's remaining coal units represent critical, dispatchable, capacity
10 resources that must be replaced with similar characteristics when they are
11 retired. Planning to do so in a timely way is important.

12 **Q. WHAT ANALYSIS DID DESC PERFORM TO CONFIRM THE**
13 **COSTS ASSOCIATED WITH RETIRING WILLIAMS IN 2030**
14 **RATHER THAN AT THE END OF ITS USEFUL LIFE?**

15 A. In all but two build plans, the PLEXOS model was instructed to keep
16 the December 31, 2030, retirement date for Williams. To calculate the effect
17 of early retirement of Williams on costs and CO₂ emissions, DESC created
18 the Williams 2047 Build Plan and the High Fuel Williams 2047 Build Plan.
19 These build plans calculated costs and CO₂ emissions under the Reference
20 Market Scenario, and the High Fossil Fuel Prices Market Scenario,
21 respectively, so that their results were directly comparable to the Reference

1 Build Plan and the High Fossil Fuel Prices Build Plan. The results showed
2 that customers would benefit from retiring Williams in 2030 compared to
3 2047 in both lower levelized net present value costs over the planning
4 horizon and lower carbon emissions. More details regarding this analysis are
5 contained in the testimony provided by Mr. Neely. The analysis supports
6 DESC's decision to set the planning goal to retire Williams prior to the end
7 of its economic life, if replacement capacity can be completed and online by
8 that time.

9 **Q. BASED ON THE RESULTS OF THE 2023 IRP, WHAT IS THE**
10 **CURRENT SCHEDULE FOR REPLACING WATEREE?**

11 A. DESC is committed to retiring Wateree by the end of 2028, if it can
12 be accomplished without sacrificing system reliability. The sequence for
13 replacing Wateree is anticipated to include (but is not limited to):

- 14 1. Commission acceptance of this 2023 IRP to include the determination
15 that early retirement of Wateree by December 31, 2028, represents the
16 most reasonable and prudent planning assumption;
- 17 2. Issuance of an all sources RFP to identify potential resources that can
18 support the capacity, energy, and reliability needs of the Company
19 following a retirement of Wateree. To ensure resources are available
20 in advance of the plant's ELG deadlines, initial steps such as the

1 design and issuance of such an RFP may need to begin prior to the
2 Commission adjudicating this IRP;

3 3. Creating build plans and modeling the levelized net present value
4 costs to customers and CO₂ emissions based on the actual resources
5 and costs provided through the RFP process and reflecting the most
6 likely future market conditions as contained in the Reference Market
7 Scenario used in the IRP, with updates to those forecasts and inputs
8 as appropriate based on changes in market conditions;

9 4. Selecting the most effective approach and winning bid(s);

10 5. Completion of any required electric transmission interconnection
11 studies and execution of interconnection agreements, as applicable,
12 for replacement resources identified through the RFP process;

13 6. Negotiation and execution of binding contracts for generation assets
14 (self-built or third-party) and the selection of contractors for
15 transmission construction projects, as applicable;

16 7. Successful completion of proceedings under the South Carolina Siting
17 Act for generation and transmission assets required to replace
18 Wateree, as applicable;

19 8. Procurement of key environmental permits, including any required
20 wetlands and construction permits; and

1 9. Completion of planning and evaluation to ensure that construction of
2 the required generation and transmission resources can be completed
3 in time to support a Wateree retirement by December 31, 2028, which
4 is currently the date Wateree must be retired if ELG compliance is not
5 pursued.

6 Progress in procuring and siting replacement capacity will be a key
7 driver in deciding whether to pursue ELG compliance for Wateree. DESC
8 has until December 31, 2025, to make a binding commitment to the South
9 Carolina Department of Health and Environmental Control (“SCDHEC”)
10 under the provisions of the currently effective ELG rule to retire Wateree. As
11 a practical matter, due to the uncertainty of the timeline for regulatory
12 approvals for replacement resources and contracts for their construction,
13 preserving options will require DESC to carry out a certain amount of pre-
14 construction design and engineering to prepare for ELG compliance in the
15 interim.

16 **Q. BASED ON THE RESULTS OF THE 2023 IRP, WHAT IS THE**
17 **CURRENT SCHEDULE FOR REPLACING WILLIAMS?**

18 A. DESC has proposed to retire Williams by the end of 2030, if it can be
19 done while maintaining system reliability. The modeling in the 2023 IRP
20 consistently selected the Shared Resource as the appropriate option to replace
21 Williams. DESC intends to continue to pursue and evaluate the potential for

1 a Shared Resource, as well as conduct additional studies for a non-shared
2 resource, or other replacement options as it deems necessary. The sequence
3 for replacing Williams is anticipated to include (but is not limited to):

- 4 1. Commission acceptance of the 2023 IRP and that a shared or non-
5 shared CC resource is the preferred replacement plan for the Company
6 to pursue for replacing Williams;
- 7 2. If possible and appropriate, conclusion of definitive joint development
8 and ownership agreements with Santee Cooper after joint study and
9 agreement on configuration of a Shared Resource or Resources;
- 10 3. Commencement of an open season for new firm natural gas
11 transportation and FERC permitting of the required gas supply
12 facilities;
- 13 4. Completion of the required electric transmission interconnection
14 studies and execution of interconnection agreements;
- 15 5. Negotiation and execution of binding contracts with successful
16 bidders for construction of the generation assets and selection of
17 contractors for electric transmission construction projects;
- 18 6. Successful completion of proceedings under the Siting Act for the
19 generation and transmission assets required to replace Williams; and
- 20 7. Procurement of air emissions and other key environmental permits,
21 including any required wetlands and construction permits.

1 At present, the greatest risk to the schedule is the permitting and
2 construction of required natural gas pipeline capacity by the appropriate
3 FERC-regulated interstate pipeline companies, a process that is ultimately
4 outside of DESC's direct control and the control of South Carolina
5 regulators. However, because DESC is pursuing ELG compliance for
6 Williams, this mitigates the risk of Williams having to be removed from
7 service prior to suitable replacement generation being available.

8 **Q. WHAT IS THE COMPANY ASKING THE COMMISSION TO DO TO**
9 **SUPPORT THE EARLY RETIREMENT AND REPLACEMENT OF**
10 **WATEREE AND WILLIAMS?**

11 A. The Company respectfully requests that the Commission enter an
12 order in this proceeding affirming the approach that the Company is
13 proposing to take to replace Wateree and Williams. Specifically, the
14 Company seeks an order affirming its plan to pursue replacement of Wateree
15 through an all sources RFP process as described in my testimony and to
16 affirm the Company's plan to continue pursuing a Shared Resource or
17 Resources with Santee Cooper to support a Williams replacement as also
18 discussed in my testimony.

19 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

20 A. Yes, it does.